

Claims:

1. (Currently Amended) A non-electrolytic energy production system for dissociating H₂O molecules at or near a reactive or catalytic surface, the system having comprising:
- two reactors, the a first and a second reactor being of a primary reaction system that includes the steps of each having H₂O as a feed material, and in which
 selecting an electronegative half cell reaction producing hydrogen;
 selecting a first electropositive half cell reaction having a sufficient potential to drive said electronegative half cell reaction; and
 selecting a second electropositive half cell reaction all occur;
 wherein said first and second electropositive half cell reactions are selected in combination with said electronegative half cell reaction to produce hydrogen and/or energy production from water the feed material; and
 combining said half cell reactions; and
 the second reactor including the step of introducing wherein H₂O in the form of steam produced as a by-product of in the first reactor is introduced at elevated temperature and a positive pressure as the feed material into the second reactor as the sole energy input, wherein to provide the necessary activation energy added to the second reactor by the addition of the steam is used by the reaction systems in the second reactor as activation energy.
2. (Cancelled)
3. (Cancelled)
4. (Currently Amended) An energy production system according to claim 1 wherein the reaction system reactor or half cell reactions require or are assisted by the provision of a reactive or catalytic surface.
5. (Currently Amended) An energy production system according to claim 1 wherein the reaction system includes on one or more electropositive half cell reactions involving the oxidation of species selected from Group I or Group II metals, binary hydrides, ternary hydrides, amphoteric elements, electropositive elements in groups one and two of the periodic table and chelated transition elements, oxyacids of phosphorus and oxyacids of sulfur.